NOBLES

A TASMEA COMPANY

Electronics

Load Measurement Solutions

CATALOGUE

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Why Choose Nobles?

About Us

Nobles' Electronics Division has been designing and manufacturing load cells and load-monitoring equipment for over 50 years, earning a reputation as a leader in this field.

Over the years, the Electronics Division has steadily expanded its offerings. We offer a range of products, from simple, ready-to-use load cells to custom-designed, engineered solutions tailored to specific customer needs.

Our load-indicating products complement our traditional wire rope and lifting product lines, and they align well with our unique capability to deliver engineered lifting solutions for nearly any application.

We are committed to supporting local manufacturing, providing innovative load measurement solutions while ensuring quality assurance in compliance with both Australian and international standards. Our load cells are certified and rigorously tested in accordance with Nobles' latest processes and quality control measures.

Nobles delivers comprehensive services and specialist expertise across a range of capabilities:

- Overhead Cranes
- Lifting & Rigging
- Height Safety Systems
- GU Maintenance
- Non-Destructive Testing
- Engineering Solutions
- Digital Solutions
- Asset Management

Electronics Capabilities

NATA Calibration Services

Nobles is a NATA accredited Metrology Laboratory public testing facility.

- Accreditation in accordance with Australian & International standards – AS2193 & ISO17025
- Calibrations performed in any unit of force such as kN, kg, tf, lbs, etc
- Nobles NATA accredited testing up to 3,500 kN (equiv. 350 tonnes-force)
- Nobles Non-NATA calibrations up to 10,000 kN (equiv. 1000 tonnes-force)

Custom Designed Load Measurement Systems

We also custom design and manufacture complete load cell systems to suit specific customer applications.

- Complex over head cranes safety systems
- Load pin systems
- Truck weigh bridges
- Ship loading systems
- Large scale building projects – weighing building structures, ships, offshore platforms.
- Customised engineered products

Mobile crane safety systems

We supply complete system solutions for Mobile Crane applications.

- Crane hoist rated load monitoring
- Boom angle sensors
- Slew sensors
- Wind speed sensors
- Anti-two-block switches (A-2-B)
- Tensiometers – (also used for dynamic rope measuring applications, such as rope winches, and more)

Over-Head Crane Safety Systems

Safety solutions for over head crane safety applications.

- Load monitoring
- Winch lifting cut-out at overload
- Alarms/sirens at trigger points
- Beacons (flashing lights)

Weighing / Load Measuring Systems and Monitoring

We manufacture and distribute a wide range of quality load measuring systems up to 2000 tonnes capacity.

- Load measuring – load shackles, load links, compression load cells, shear beam, load pins, and more
- Wireless (telemetry), cabled, self-indicating & datalogging displays; mA output (0-20mA, 4-20mA) & mV output
- Conveyor belt load monitoring systems – for maintaining the constant tension of conveyor belts
- New solutions – including custom data-logging and check weigh systems, etc
- Rig-Mate Crane Scales and LoadMate Load Links

ECAM Underground Mine Shaft Safety Systems

Complete safety solutions for underground mining applications.

- Minitalk Communication System
- Digicom Video Communication System
- SSP98 Shaft Monitoring System
- Mine Hoist Monitoring System

Fixed/Static Wire Rope Measurement System

Rope tension meters for measuring static rope force applications – such as masts, guy wires, structure/tower cables etc.

- Tension meters available for purchase.
- Calibrations and Fulmer Tension Meter hire

Electronics Systems for Hire

Specialised load cell systems:

- Tension Meters (for measuring fixed wire rope)
- Tension Load Link Capacities (from 2t to 150 tonnes)
- 60t Pad-Eye Tester
- (4x) 50t Compression Hire System (up to 200t Compression)
- (6x) 150t Compression Hire System (up to 900t Compression)
- Other systems can be reviewed upon request.

NATA Calibrations

Nobles holds NATA accreditation for the calibration of electronic load cell equipment, and our laboratory complies with International Standard ISO/IEC 17025. We can verify the accuracy of your load cell and certify it in accordance with Australian Standard AS2193.

We have been a NATA-accredited laboratory since 1964, specialising in the precise calibration and testing of load cells, dynamometers, and force measurement equipment. We ensure accurate and reliable performance that meets industry standards.

Our calibration team can issue calibration reports as either NATA or NON-NATA Nobles Reports, depending on the client's compliance requirements.

We provide detailed reports following each calibration.

NOBLES

Customer Feedback

Nobles Pty Ltd.
A.B.N. 18 007 513 395
24-30 Kaurna Avenue,
Edinburgh, South Australia 5111
Phone: 1300 711 559
www.nobles.com.au

CALIBRATION REPORT

Report No: 5096
Customer: NOBLES KTH
Address: 50 Kewdale Road, WELSHPOOL WA 6106

Report Date: 29-April-2026
Customer Order No: INTERNAL
Project No: WO 1388
Calibration Date: 29-April-2026
Calibration Due: 29-April-2028

Temperature: 27 - 28 °C
Temperature Reference: Calibrated Fluke 51 Thermometer S/N: 5780915
System Details: 50tf tension Load Cell c/w Telemetry Digital Display

	Load Cell	Indicator
Manufacturer:	JCM	JCM
Model No:	WLL-50Te	TDM-9
Serial No:	2050-243A	2050-243A

Force Application: Hydraulic
Force Indication: Digital
Display Type: Telemetry
Capacity: 1.5 to 50 x 0.01 tf in tension

Reference Standard: Australian Standard AS 2193-2005
Methods for the calibration and classification of force-measuring systems
Preliminary Inspection: The system was in a satisfactory operating condition and did not require adjustment.

Calibration Procedure: The system was calibrated over a series of three (3) tests in accordance with clause 3.3.6.1 of AS 2193-2005. Measurement results for force are traceable to SI units.
Reference Equipment: 550kN Approved Load Cell S/N 124525

Calibration Results:

Applied Force tf	Error %	Repeatability %	Class	$\pm U_m$ tf	k
1.50	-1.9	2.1	C	0.05	4.30
5.00	-1.3	0.9	B	0.06	4.30
10.00	-0.9	0.4	B	0.05	4.30
20.00	-0.7	0.2	B	0.06	4.30
30.00	-0.4	0.0	B	0.01	1.98
50.00	-0.1	0.0	B	0.01	1.99

Notes: 1. A negative error indicates the measured force is less than the applied force.
2. The classification is based on the systems readability, error and repeatability.
3. If the given or calculated force is in terms of one of of the technical units, the following conversion factors may be used:

Required unit of force		Factor by which the force in kN must be multiplied
pound-force	(lbf)	224.808 94
tonnes-force	(tf)	0.101971 62
kilogram-force	(kgf)	101.971 62

Uncertainty: The uncertainties of this calibration have been calculated with a level of confidence of 95%.

Conclusion: The system was checked to AS2193, section 3.3.6.1 and the classes are shown in the table above.

Signed: S Thapa
Approved Signatory

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/international standards.
NATA Accredited Laboratory Number: [illegible]. Accredited for compliance with ISO/IEC 17025 - Calibration

NATA

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of

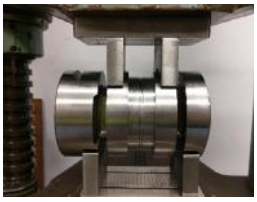
Custom Load Cell Systems

Replacement, Refurbishment & Repair

Nobles is a custom manufacturer of bespoke load cell systems and can design for any industrial application in tension, compression or shear. Our load cells are used in many industries such as mining, offshore, agriculture, and construction.

Our custom load cells can integrate seamlessly with existing systems, utilising high-strength, premium materials and our extensive experience in force measurement.

From simple to complex requirements, our team can deliver solutions to meet your exact real-time, data-logging or general load monitoring needs.



Specialised Load Cell Systems

Why Choose Nobles for Load Cell Hire?

At Nobles, we understand that precision and reliability are critical in every lifting operation.

Whether you're conducting load testing, weighing heavy equipment, or ensuring safety during lifting projects. We offer a comprehensive range of load cells and wireless load monitoring systems for hire, backed by over a century of industry experience.

You can rent our specialised load cell systems with flexible options and full calibration support for short or long-term lifting projects, ensuring accuracy and reliability for your ongoing operations.

We have a fleet of load cells available for hire in varying capacities and configurations. All hired cells come with calibration certification and durable transit road boxes.

Please contact your nearest branch for further details on load cell hire systems.

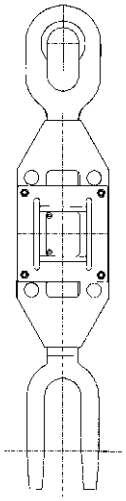
Tension Load Cells

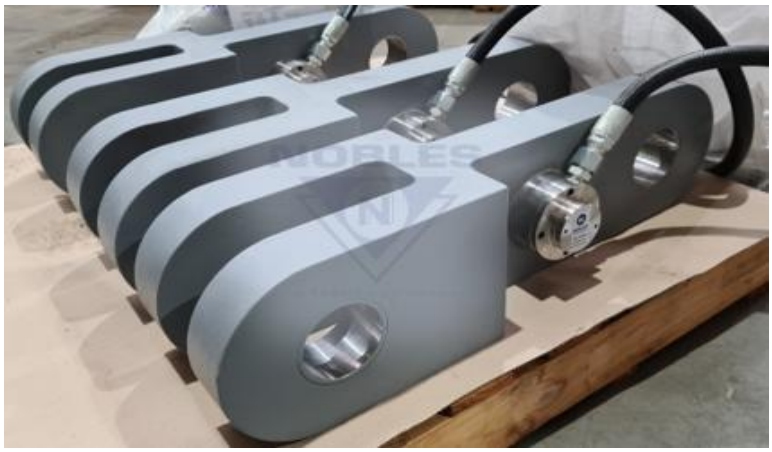
Product Overview

Whether you need tension solutions for general lifting, tensioning, or load monitoring, we can supply a wide range of off the shelf solutions or purpose-made options.

Our innovative new turnbuckle load cell range combines load measuring with turnbuckle for ease of installation and reliable in-line force measurement.

Please reach out to our team for any force measurement application and we can ensure that your load measurement device delivers the results you require.





Turnbuckle Load Cells

Product Overview

Smart Tension Monitoring Integrated into a Standard Turnbuckle.

Our Turnbuckle Load Cells combine a high-quality turnbuckle with an integrated load sensing system, providing a simple and effective solution for real-time load monitoring and tension measurement.

Designed for lifting, rigging, structural monitoring, guy wire tensioning, and load verification applications, these units retain the functionality of a standard turnbuckle while delivering accurate load data.

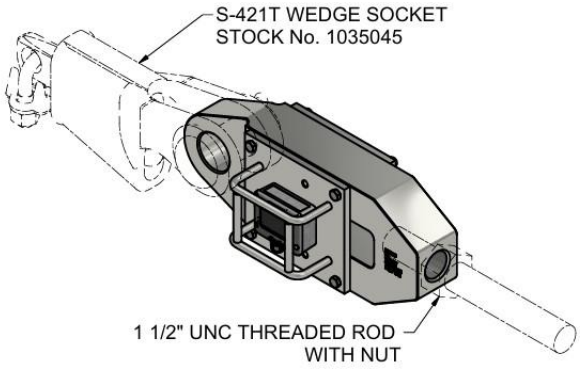
Available end fitting configurations include:

- Eye / Eye
- Eye / Jaw
- Jaw / Jaw
- Custom (Bespoke) End Fittings Available

Monitoring & Communication Options

- Cabled systems with handheld display
- Wireless remote monitoring
- IoT and cloud-based monitoring solutions
- Solar-powered systems for remote installations
- Customised monitoring packages to meet specific project requirements

Our engineering team can tailor the load monitoring solution to suit your operational and reporting requirements.



Nominal Size	Capacity (Grade S)
M27	6.3t
M30	8t
M33	10t
M39	12t
M42	16t
M48	20t
M56	32t
M64	40t

LinkMate Load Links

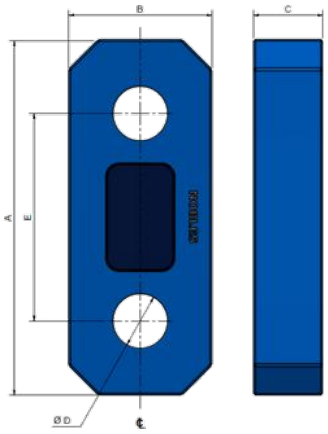
Product Overview

Our LinkMate Load Link System is a cutting-edge wireless load measurement solution designed and manufactured in-house in Australia. With precision engineering and advanced wireless technology, it delivers unmatched reliability for lifting, rigging, and load monitoring applications.

- Proudly Australian-made for local and global markets.
- Lightweight Aerospace grade anodised aluminium, durable, and designed for challenging environments.
- Latest wireless technology and compatible with T24 technology for real-time data monitoring and compatibility with sensorspace.
- Fully Finite Element Analysis (FEA) optimised and destructively tested with high safety factor.

Key Features

- NATA certified: NATA accredited Lab (in-house calibrated).
- Wireless connectivity: up to 800 meters of wireless range.
- High accuracy: measurement accuracy of ±0.5%.
- Robust build: crafted from high-strength, corrosion-resistant materials.
- User-friendly display: Intuitive, hand-held wireless display.
- Extended battery life: operates continuously for 35 hours.
- Safety compliance: NATA, AS4991, AS2193-2005, ISO/IEC 17025.



WIRELESS DISPLAY

Details

The LinkMate Load Links come in a standard range of sizes that we can specially manufacture to meet your exact lifting requirements.

These load links come with a display capable of connecting to up to 12 LinkMate Load Links and displaying their force measurements.

They are are also compatible with Sensor Space, a cloud-based IoT device that enables remote monitoring and datalogging from anywhere in the world via an internet connection.

WLL	Description	Item #	A	B	C	D	E	F	Weight
1.5t	1.5t Nobles Plate Load Cell c/w 10m cable	29528	30	70	35	14	200	55	1
2.5	1.5t Nobles Plate Load Cell c/w 10m cable	29529	30	75	30	16	210	60	1.5
5t	1.5t Nobles Plate Load Cell c/w 10m cable	29530	30	75	35	21	210	65	2
7.5t	1.5t Nobles Plate Load Cell c/w 10m cable	29531	45	65	36	25	220	66	3
10t	1.5t Nobles Plate Load Cell c/w 10m cable	29532	50	80	41	25	260	82	4

SmartLoad® Load Links and Load Shackles

Product Overview

These load cells are designed to minimise stress concentrations and maximise strength, with features that also increase reliability, decrease the risk of damage and ensure ease of use.

Manufactured from high tensile, aerospace grade anodised aluminium, our load links are suitable for use across all industry sectors including marine and offshore.

They are fully Finite Element Analysis (FEA) optimised and destructively tested.

We can supply a range of load links, up to 500 tonnes for purchase, and load shackles up to 1000 tonnes.

Larger capacities and made to order designs are available on request.

All SmartLoad® Wireless Load Measuring Systems come complete with a Handset Display, Transit Case & NATA Calibration.

Key Features

- Industry leading safety factor
- In link data logging
- Latest wireless technology
- Internal antenna
- Corrosion resistant design
- Compatible with Smart Load COG system
- Use with any compatible hand-held or wall-mounted display.

Optional Extras

- Available with Smart Load technology
- USB Wireless Data Logging via Laptop/PC
- Cabled or Wireless or Built-in display
- Hazardous area zone 0,1 and 2
- Signal boosters available for extended wireless range
- Larger load cells are available upon request

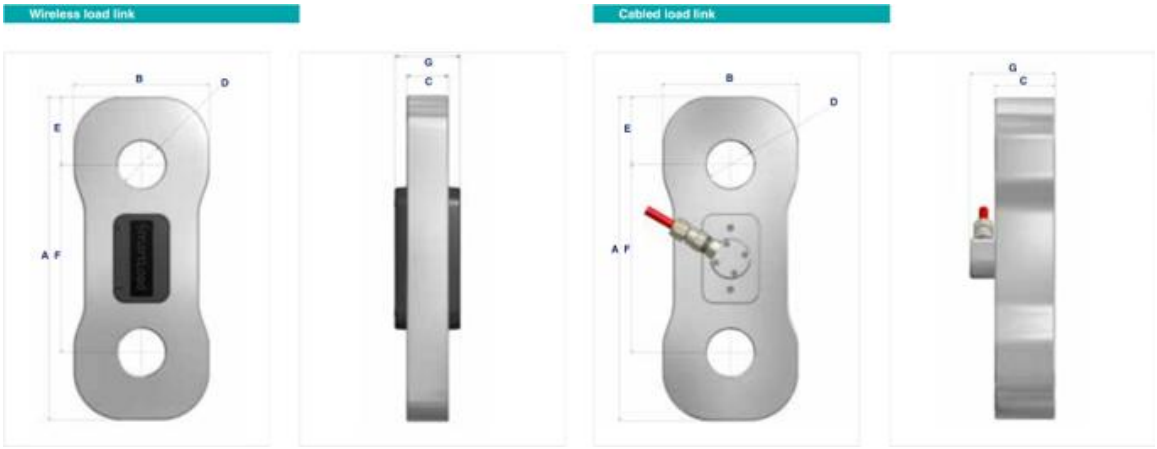
SmartLoad® Load Links

Product Overview

Our SmartLoad Links can be supplied in various sizes that are compatible with standard shackle sizes for ease of capacity selection from 2t up to 500t.

Cabled or wireless and hazardous area zone 1 and 2 options as well as datalogging available.

Please reach out to our team for a comprehensive datasheet with more capacities and details on these systems.



WLL	Description	Item #	A	B	C	D	E	F	G	Weight
2t	Smartload Link c/w Case & NATA	33001	230	74	24	20	37	156	50	1.3
5t	Smartload Link c/w Case & NATA	33002	250	84	32	26	37	176	48	1.8
12.5t	Smartload Link c/w Case & NATA	33003	300	108	50	40	54	192	N/A	3.5
25t	Smartload Link c/w Case & NATA	33004	350	144	65	52	72	206	N/A	7
35t	Smartload Link c/w Case & NATA	33005	400	168	75	58	84	232	N/A	10.8
50t	Smartload Link c/w Case & NATA	33006	450	202	90	71	101	248	N/A	17.3
75t	Smartload Link c/w Case & NATA	33007	480	244	110	84	122	236	N/A	29.5
120t	Smartload Link c/w Case & NATA	33008	550	270	141	97	130	290	N/A	56.5
150t	Smartload Link c/w Case & NATA	33009	620	290	161	110	150	320	N/A	78.9
250t	Smartload Link c/w Case & NATA	33011	790	390	189	143	200	390	N/A	158
500t	Smartload Link c/w Case & NATA	33015	1120	560	230	188	310	500	N/A	408

Note: Dimensions are in mm, Weight is in kg, and Load Cell Capacities are is shown in metric tonnes.

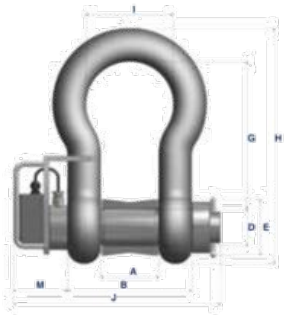
SmartLoad® Load Shackles

Product Overview

Our wireless SmartLoad Shackles can be supplied in various sizes that are compatible with standard shackle sizes for ease of capacity selection from 8.5t up to 1000t.

Cabled or wireless and Hazardous Area Zone 1 and 2 options, as well as datalogging, are available.

Please reach out to our team for a comprehensive datasheet with more capacities and details on these systems.



WLL	Description	Item #	A	B	C	D	E	F	G	H	I	J	K	L	M	Weight
8.5t	Smartload Shackle System	33016	43	93	59	28	44	25	95	164	68	224	200	100	119	2.6
12t	Smartload Shackle System	33017	51	115	72	35	50	32	115	201	83	274	200	100	119	4.9
17t	Smartload Shackle System	33018	60	136	88	42	63	38	146	249	99	304	200	100	119	8.2
25t	Smartload Shackle System	33019	74	164	103	50	88	45	178	300	126	338	200	100	119	14.2
35t	Smartload Shackle System	33020	83	183	111	57	88	50	197	331	138	361	200	100	119	19.9
55t	Smartload Shackle System	33021	105	235	145	70	114	65	260	433	180	410	210	110	118	39.6
85t	Smartload Shackle System	33022	127	273	162	83	125	75	329	527	190	454	220	120	118	62
120t	Smartload Shackle System	33023	150	328	200	95	152	89	380	617	238	482	N/A	N/A	92	110
150t	Smartload Shackle System	33024	170	374	230	108	165	102	400	671	275	535	N/A	N/A	92	160
200t	Smartload Shackle System	33025	180	420	260	140	19	120	500	813	290	615	176	80	115	235
300t	Smartload Shackle System	33026	205	465	305	150	254	130	600	958	305	665	203	100	115	340
500t	Smartload Shackle System	33028	255	615	570	185	300	180	700	1158	350	817	N/A	N/A	122	685
1000t	Smartload Shackle System	33033	350	810	480	240	355	230	750	1290	420	1020	N/A	N/A	127	1460

Electronics Load Cell Systems

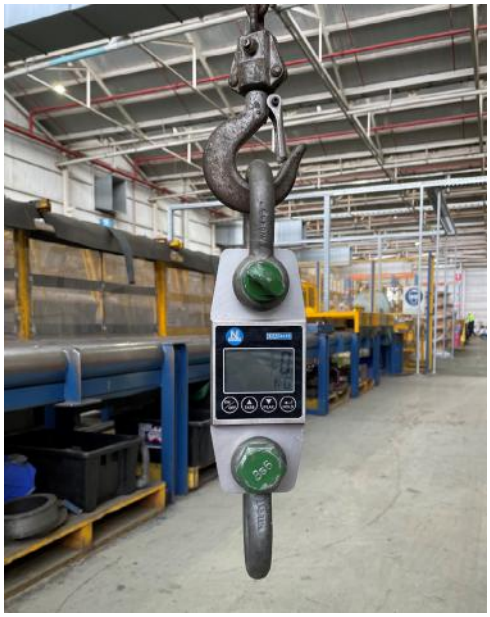
Load Mate Load Links with Bluetooth

Product Overview

Our innovative and excellent value LoadMate load links range is an exceptional low-cost solution to any tension lifting situation.

Now with Bluetooth connectivity to integrate seamlessly with the latest mobile technology, you can view results via an app that is wirelessly compatible with both Android and Apple phones.

Contact our team to find out more about our latest self indicating load links with wireless handset and Bluetooth functionality.



Electronics Load Cell Systems

Load Mate Load Links

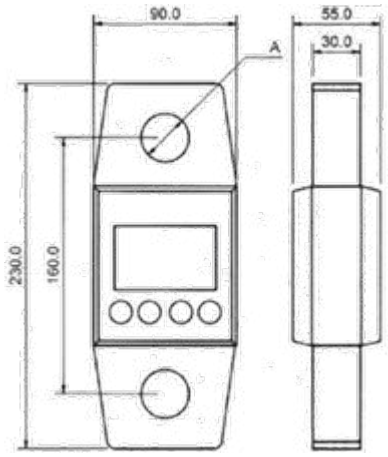
Product Overview

This load link is a combination of a proven design, combined with advanced electronic technology providing a superb feature set. It is versatile, reliable, accurate and easy to operate.

Key Features

- Larger digits on the display
- Fits with standard shackles
- Small/compact easy to use and carry
- Low power consumption design
- Bluetooth version available
- Wireless handset version available

Load-Mate Specifications	
Accuracy:	≤±0.1% full scale
Backlit Digital Display:	22mm, 5-digit LCD
Total Screen Size	39-43mm (Model based)
Read-ability / Increments:	2,000kg Type – 1kg, 5,000kg Type – 2kg, 10,000kg Type – 5kg
Stable Time:	< 10 seconds
Stable Time:	+/- 2% full scale
Manual Zero Range:	+/- 2% full scale
Tare Range:	Full Capacity
Overload Indication:	100% Max Capacity
Maximum Safe Load:	120% Max Capacity
Ultimate Load:	400% Max Capacity
Battery Life:	< 30 hours
Operating Temp:	-10 to +40 degrees
Remote Distance:	20m LOS (Line of Sight)
Batteries for remote:	3 x AA (included)



WLL	Description	Shackle	Item #	A	B	C	D	E	F	Weight
2t	LoadMate Links (Bluetooth Version)	Fits 6.5t Shackle - Not included	29287	26	160	230	90	55	30	2
5t	LoadMate Links c/w Bluetooth	Fits 9.5t Shackle - Not included	29288	33	160	230	90	55	30	3.5
10t	LoadMate Links c/w Bluetooth	Shackles not included	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA
10t	Slim LoadMate Bluetooth or Handset	Shackles Included	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

Rig-Mate Crane Scales C-Type

Product Overview

The Rig-Mate Crane Scale is durable for workshop, factory or production purposes, with versatile functions, built-in shackle and underhook adaptor to provide an excellent feature set. It provides reliable, precise performance with simple operation.

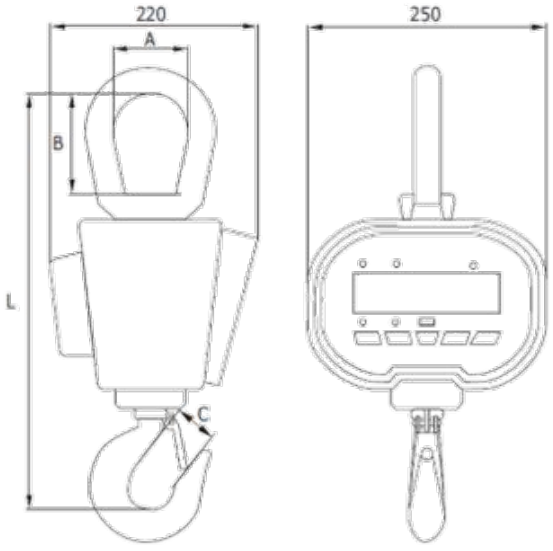
Rig-Mate (C-Type) Specifications	
Backlit Digital Display:	30mm, 5-digit LCD
Read-ability / Increments:	2000kg Type- 1kg, 5000kg Type - 2kg
Stable Time:	< 10 seconds
Tare Range:	Full Capacity
Overload Indication:	100% Max Capacity
Maximum Safe Load:	120% Max Capacity
Ultimate Load:	400% Max Capacity
Battery Life:	60 - 100 hours
Charger:	DC 9V / 1000mA
Operating Temp:	-10 to +40 degrees
Infrared Remote Operating Distance:	20m LOS (Line of Sight)
Batteries for remote:	2 x AA (included)

Key Features

- New compact, lighter design
- 30mm backlit LCD display
- Manual or remote operation via remote control
- Infrared remote-control distance of 20m
- Water resistant button panel
- 6V rechargeable battery included

Display Functions

- Load/weight, hold, tare, accumulation, kg/lb unit conversion, gross/net conversion
- Uncalibrated factory accuracy ±2%
- NATA calibration available on request



Capacity WLL	Description	Item #	Read-ability	A	B	C	D	E	L	Weight (kg)
2t	Rig-Mate Crane Scale Compact (C Type)	27276	1kg increments	70	100	35	220	250	420	11.5
5t	Rig-Mate Crane Scale Compact (C Type)	29288	2 kg increments	85	115	40	220	250	480	15

Rig-Mate Crane Scales B-Type

Product Overview

The Rig-Mate Crane Scale is durable for workshop, factory or production purposes, with versatile functions, built-in shackle and underhook adaptor to provide an excellent feature set. It provides reliable, precise performance with simple operation.

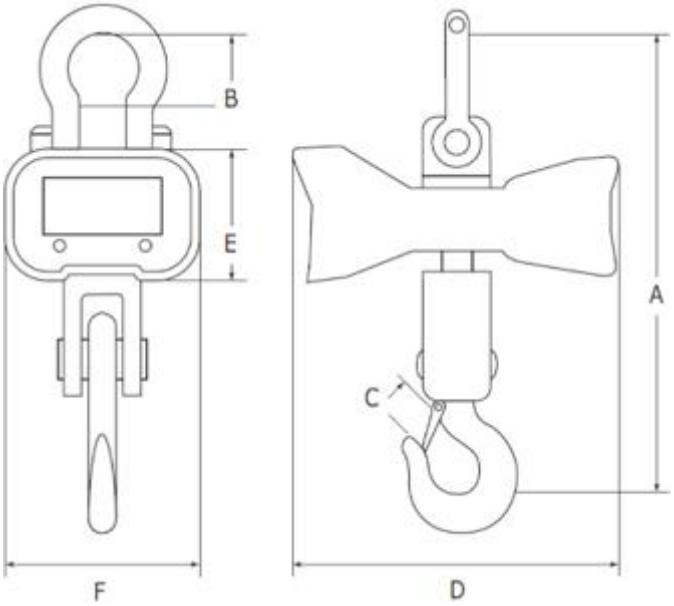
Key Features

- New compact, lighter design
- 30mm backlit LCD display
- Manual or remote operation via remote control
- Infrared remote-control distance of 20m
- Water resistant button panel
- 6V rechargeable battery included

Display Functions

- Load/weight, hold, tare, accumulation, kg/lb unit conversion, gross/net conversion
- Uncalibrated factory accuracy ±2%
- NATA calibration available on request

Rig-Mate (B-Type) Specifications	
Backlit Digital Display:	30mm, 5-digit LCD
Read-ability / Increments:	2000kg Type- 1kg, 5000kg Type - 2kg
Stable Time:	< 10 seconds
Tare Range:	Full Capacity
Overload Indication:	100% Max Capacity
Maximum Safe Load:	120% Max Capacity
Ultimate Load:	400% Max Capacity
Battery Life:	60 - 100 hours
Charger:	DC 9V / 1500mA
Operating Temp:	-10 to +40 degrees
Infrared Remote Operating Distance:	20m LOS (Line of Sight)
Batteries for remote:	2 x AA (included)



Capacity WLL	Description	Item #	Read-ability	A	B	C	D	E	F	Weight (kg)
10t	Rig-Mate Crane Scale Bulky (B Type)	29545	5kg increments	850	120	70	360	155	230	44
20t	Rig-Mate Crane Scale Bulky (B Type)	29547	10kg increments	940	220	75	360	155	230	67

General Equipment Carry Cases

Product Overview

No matter the size or shape of the equipment, we can supply protective cases to suit your needs.

There are various design option that we can adapt to suit your load cell, auxiliary equipment storage and protectively meet any transportive requirements.

Please reach out to our team today to discuss your preferences.

Load Cell Sizes WLL	Description	Item #
2-35 t	Hard Plastic Case with Inner Foam	29579
35-75 t	Road Box	29248
Any	Custom Cases	TBA

Conveyor Belt Load Cells

Product Overview

The conveyor-type load link we supply has been carefully designed and manufactured to resist torque forces that may be introduced as a result of twisting at connection points.

Primarily used for conveyor belt tensioning, these load cells are also suitable for a wide range of industrial force-monitoring applications.

Manufactured from hardened 630 stainless steel, each unit comes complete with a 10 m cable (custom lengths available) and NATA calibration certification.

The load link features an integral industry-standard output signal for direct integration with PLC, SCADA, and other data acquisition systems.

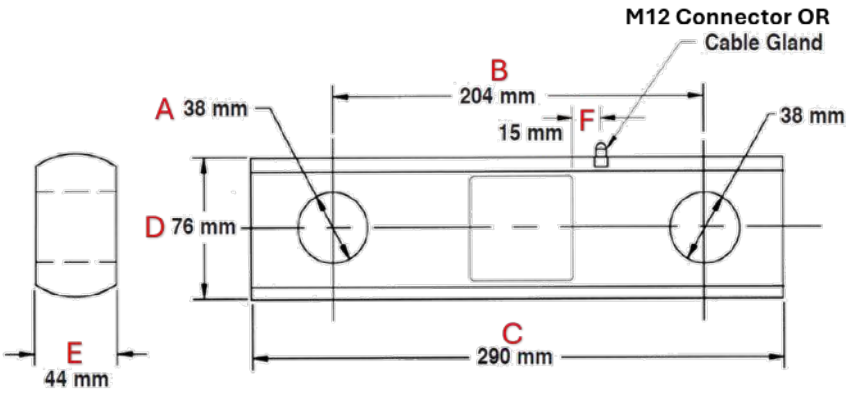
Specifications

Each conveyor-type tension load link is pre-calibrated to represent the device's full capacity range of force.

Units are available with 4–20 mA or mV/V nominal outputs and are compatible with PLCs, displays, and other monitoring systems.

The load links are suitable for high and low alarm trip monitoring applications and can be custom designed to suit specific operational requirements.

Manufactured in stainless steel with an in-line eye configuration as standard, alternative load cell configurations and capacities are available upon request to suit specific applications.



Our Standard 10t Conveyor Belt Load Cell Fits 12t Shackles and NUJP39 L or R Jaws for 39mm rigging screws

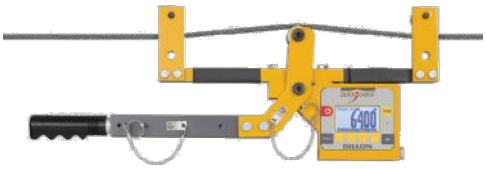
WLL	Description	Item #	A	B	C	D	E	F	Weight
10t	100kN Stainless Steel Tension Load Cell c/w 4-20mA or mV output	29604 (TR171)	38	204	290	76	44	~15	4
20t	200kN Stainless Steel Tension Load Cell c/w 4-20mA or mV output	(TR15001)	53	208	320	100	60	~15	5
30t	300kN Stainless Steel Tension Load Cell c/w 4-20mA or mV output	(TR2000)	60	220	360	120	80	~15	6
≤30t	≤300 Custom Stainless Steel Tension Load Cell c/w any output or display	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

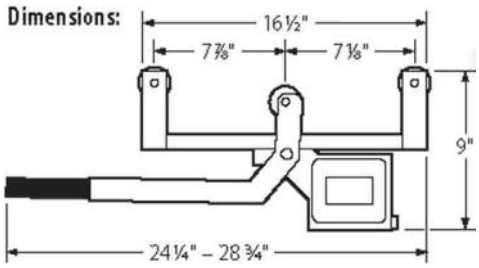
Quick Check Tension Meter

The Quick Check Tension Meter is used to measure the static tension of various cables or ropes. It has a built-in display that automatically converts measurement readings of up to 20 different wire rope sizes into known units of force.

The Quick Check can be utilised in many industries. Common application include tower and stack guy wires, pretensioned wire rope barriers, elevators, bridges, static winch ropes, overhead transit wires, fall arrest systems, aircraft cables and other utilities.

Available for purchase or hire.





Quick Check Tension Meter Specifications	
Wire sizes	4.75 to 25.4mm
Accuracy	±3% instrument capacity
Loading error	Cable elongation of only 2mm
Display	Dot-graphic LCD supports full text and 25.4mm high digits
Sheave Range	Each set accommodates rated wire size and 1/2" inch smaller
Suggested calibration	Calibrate each wire rope of same diameter and different construction separately if accuracy is critical
Environment	Suitable for outdoor use
Operating range	-20°C to 70°C
Tension units	Pound-force, kilogram force, Newtons
Product Weight	5 kilograms
Shipping Weight & Dimensions	12 kilograms (71 x 41 x 20)cm
Batteries	2 x AA (included)
Recalibration	As user discretion (usually 12-24 months) Calibrate more frequently with heavy use.

Max Rope Tension	Description	Item #	Details	Suits Wire Size Diameters	Length	Weight
3t	DILLON QUICKCHECK: 4,500kg x 5 kgf/45kN x 50N	33048	Includes Carry Case & first set of Sheaves. Also Includes (1x) free rope calibration	4.75 to 25.4mm (Sheave size dependant)	616mm (clamped) 730mm (open)	3
3t	DILLON Quick Check SHEAVE (set of 3) Please specify size 'T, S,P, Or L'	33879	T size: 12.7mm to 26mm cable, S size: 6.5mm - 19mm cable P size: 4.75mm - 12.7mm cable L size: 4.75mm - 6.5mm cable	6 – 19mm	460mm	3
4.5t	Quick Check Tension Meter Hire	GL0009	General purpose multi usage suited for radio and tv mast stays	4.75 - 26mm (Sheave size dependant)	616mm (clamped) 730mm (open)	5

Fulmer Tension Meter

The Fulmer Tension Meter allows a rapid tension measurement of fixed or stationary rope, rod or cable. The portable hand-held instrument clamps onto the cable exerting a force and measures the deflection.

Suitable for use on steel wire ropes, natural and man-made fibre cord, covered or uncovered ropes, combination ropes, twines and metal rods.

Available for hire only.

Applications include:

- Equalising loadings on multi cable assemblies
- Setting tension to specific loads for optimum performance safety or ensure specifications are met.
- Safety, performance & condition monitoring of:
  - Aerial Mast Stays
  - Fishing Ropes
  - Aircraft Support Cables
  - Oil Rig Support Cables
  - Overhead Cables
  - Lifts and Cable Cars
  - Cranes and General Engineering
  - Mining
  - Architectural Rigging
  - Ships Rigging

Operation tension is measured by engaging the meter on the loaded member and exerting a deflecting force by a half turn of the handle.

The reaction to the deflecting force acting upon the frame causes it to bend in proportion to the tension in the member.

This is displayed on the indicator incorporated in the tension meter.

The actual tension or load is obtained from the calibration graph.

The tension meter must be calibrated with the same type, size and construction of rope, rod assembly or cable.

WLL	Description	Item #	Application	Suits Wire Size Diameters	Length	Weight
3t	03C Fulmer Tension Meter Hire	GL0009	General purpose multi usage suited for radio and tv mast stays	5 - 19	460	3
3t	03G Fulmer Tension Meter Hire	GL0009	Improves accuracy at lower cable tensions	6 - 19	460	3
10t	05C Fulmer Tension Meter Hire	GL0009	Heavy duty for large cables and higher tensions	6 - 31	560	5

Cranes Systems – Mobile & Overhead

Crane Monitoring & Safety Solutions

We can provide crane monitoring systems for mobile and fixed overhead applications. This offers real-time load monitoring, safety alarms, and performance analytics to prevent overloading and enhance safety.

Mobile Crane Systems and Parts

Wireless and cabled range of products including the following:

- Load Cells
- Tensiometers (line running)
- Anemometers (wind speed)
- Anti-2-Block Switches
- Angle, Slew and Boom Length Indication
- Multi Sensor Displays – Load Charts

Overhead Crane Load Monitoring

A standard overhead crane load monitoring system includes:

- Tension Plate Cell.
- Display with 2 set-points.
- Power Supply input options can be 12-24VDC, 32-48VAC, 110 VAC or 240 VAC.

Alternatively load cell pins can also be used on the equalizing sheave instead of a plate cell on the dead end.

Other options available for our overhead crane display systems include:

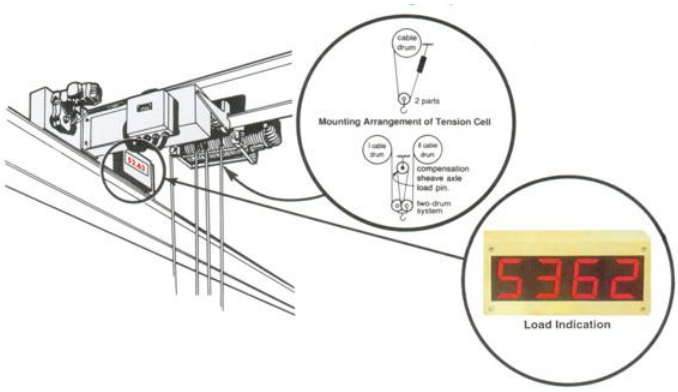
Larger LED displays, remote tare, visual alarm (strobe), audible alarm - other system requirements on request.

Overhead crane safety system features:

- Modular design to suit all overhead crane types
- Standard and custom-built load cells
- IP65 rated
- Motion cut and travel limits
- Site adjustable trip points
- Retransmission outputs, IOT, datalogging
- Design Working Period (DWP) logging
- Hoist monitoring system

To calculate load cell capacity in a dead-end system:

Divide the Working Load Limit (WLL) of crane by number of falls = Capacity of plate cell required at dead end.



Overhead Crane Systems and Parts

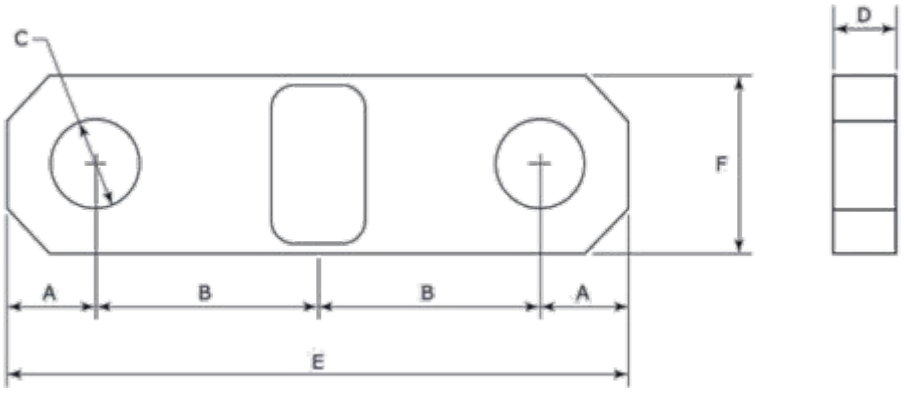
Plate Load Cells

We manufacture a range of plate cells in-house and various display options are available.

Plate cells are a low-cost tension cell where articulation of the load does not occur.

Plate cells are usually secured with sister plates and are not suitable for applications with high rotational torque.

Typical applications include overhead crane load measuring falls of at the rope termination dead-ends.



WLL	Description	Item #	A	B	C	D	E	F	Weight
1.5t	1.5t Nobles Plate Load Cell c/w 10m cable	29528	30	70	35	14	200	55	1
2.5	1.5t Nobles Plate Load Cell c/w 10m cable	29529	30	75	30	16	210	60	1.5
5t	1.5t Nobles Plate Load Cell c/w 10m cable	29530	30	75	35	21	210	65	2
7.5t	1.5t Nobles Plate Load Cell c/w 10m cable	29531	45	65	36	25	220	66	3
10t	1.5t Nobles Plate Load Cell c/w 10m cable	29532	50	80	41	25	260	82	4

Overhead Crane Systems and Parts

Rope Clamp Load Cells

Rope clamp load cells are sensors designed to measure tension in wire ropes. They monitor tension to ensure safety and provide accurate weight readings for wire-rope load monitoring applications.

The choice of cell type depends on the application, whether for an overhead crane rope termination (dead-end) or a static wire rope application.

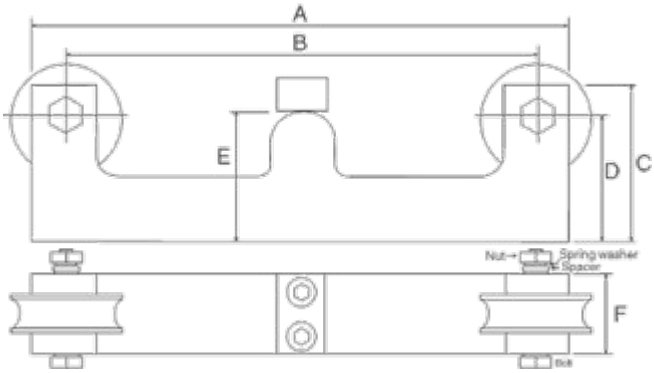
They are commonly used for overload protection and lift monitoring in cranes, hoists, and elevators. These sensors can be installed quickly and easily on a fixed, dead-end rope, eliminating the need for mechanical changes or cutting existing rope lines.

Rope Clamp Load Cell Specifications	
Nominal output:	2mV/V ±0.1% full scale
Zero balance:	±0.1% full scale
Linearity error:	0.03% FSO
Hysteresis:	0.03% FSO
Repeatability:	0.02% FSO
Creep (1 hour)	0.05% FSO
Temp effect span:	20ppm/°C of load
Temp effect zero:	40ppm/°C of load
Compensated temp. range:	-10°C to +40°C
Safe load:	150% Max Capacity
Mechanical Failure:	300% Max Capacity
Recommended excitation:	10VDC
Maximum Excitation:	15VDC
Environmental protection:	IP67
Cable:	4 core with shield
Cable Length:	6 metres
Input impedance:	800Ω ±30Ω
Output impedance:	700Ω ±4Ω
Material:	Alloy tool steel, nickel plated

Wiring Colour Code	
Red	Excitation +
Black	Excitation -
Green	Signal +
White	Signal -

To remove wheels for insertion of cable:

- Remove nut, spring washer and spacer
- Turn bolt with a spanner to loosen if necessary
- Bolt should now push out allowing removal of wheel.



Wire dia.	Wire Force	Description	Item #	A	B	C	D	E	F	Weight
6-10mm	0.4 – 3t	Rope Clamp Load Cell	TBA	276	242	75	54	61	40	4.3kg
11-15mm	2 – 5t	Rope Clamp Load Cell	TBA	276	242	75	54	61	40	4.3kg
16-22mm	4 – 10t	Rope Clamp Load Cell	TBA	330	280	110	80	75	56	9.5kg

Alternative rope clamp load cells are available, please contact our team for more details.

Overhead Crane Systems and Parts

Display Options

We can supply standard large digit displays and crane hoist logging displays to suit any industrial lifting application.

Foundries, smelters, weigh bridges, storage tanks, silos and factory overhead crane systems are just some of the possible applications for these large digit displays.

Our large digit displays can be configured to suit several load cell signal input types and can be supplied to suit power inputs ranging from 12-24VDC isolated or 24,32,42,48,110 or 240VAC supply voltages.

Standard large digit displays and crane hoist logging displays range from 20 to 200mm digit height display sizes.

Our crane hoist logging displays can provide visual load indication, logging with DWP calculations based on AS2550.1-2011 all in the one device.

Our crane hoist logging display features include:

- Windows software included for monitoring, configuration and downloading logs, etc.
- Ethernet comms and data logger memory are standard.
- Digital inputs for Run/Direction or Lift /Return, Up, Down, North, South, West and East travel.
- Optional RS232, RS485 and USB comms.
- IP65 rated wall mount enclosure
- 4 relays as a standard inclusion rated at 240VAC, 5A into a resistive load. Relay 1 is dedicated for DWP operation.
- Auto-brightness to suit ambient light standard, as well as optional high contrast display versions available
- Logging Records include DWP, overloads, overload duration, maximum load, average load, lifts, lift duration, average weight, maximum weight, minimum weight per lift, etc.

Display type examples

5 digit 45mm digits red LED

4 digit 57mm digits red LED

4 digit high contrast 58mm digits green LED

4 digit 100mm digits red LED

4 digit 200mm digits green LED

Example from web page

Shear Load Cells

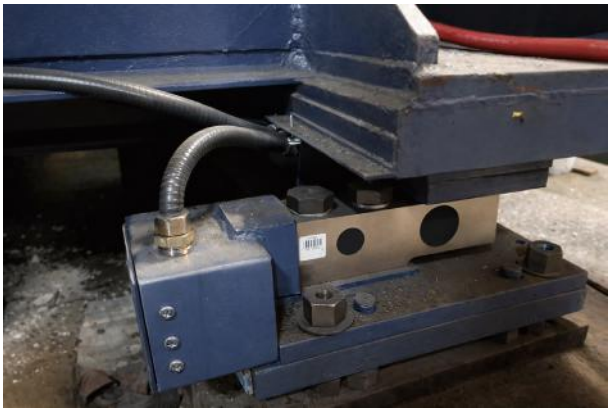
Shear load cells designed, manufactured, and tested by Nobles can be made to order with specific configurations, capacity, and dimensions. Load cells have rated load capacities ranging between 2 to 1,000 tonnes.

Load measuring pins can be fitted or retrofitted without the requirement for costly alterations or fittings.

Load measuring pins are often used for ship loaders, overhead cranes, actuator arms, pivot points, structural and suspension ropes, gate hinges, and other mining, shipping and construction applications.

Shear beam load cells are used for both static and dynamic measurements for directions of tension and compressions. Our shear beam load cells have been designed to be load bearing and have some movement.

Shear beam load cells are often used for: weighing silo hoppers, tanks, structures, platform scales and vehicle weigh bridges.



Load Measuring Pins

Load cell pins are a specialty of ours, and we regularly manufacture application specific pins. All load cell pins are made to order as each one is different regarding configuration, capacity and dimensions.

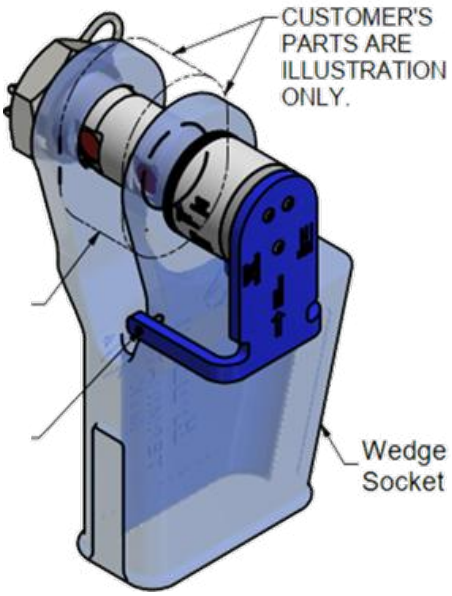
These field-proven load measuring pins offer an alternative solution in addition to exhibiting the following advantages:

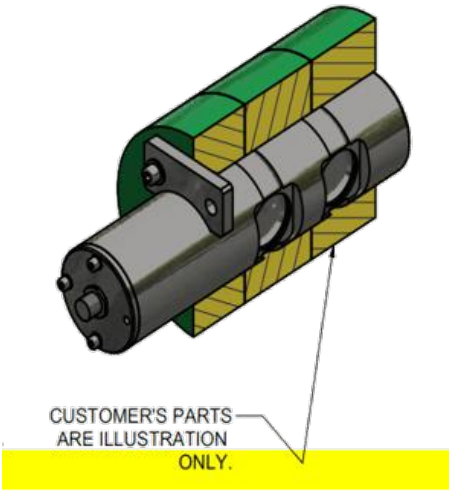
- Simple exchange with existing shafts or pivots without alterations to the construction.
- Complete protection of the transducer by the bearings.
- No reduction in the lifting height.

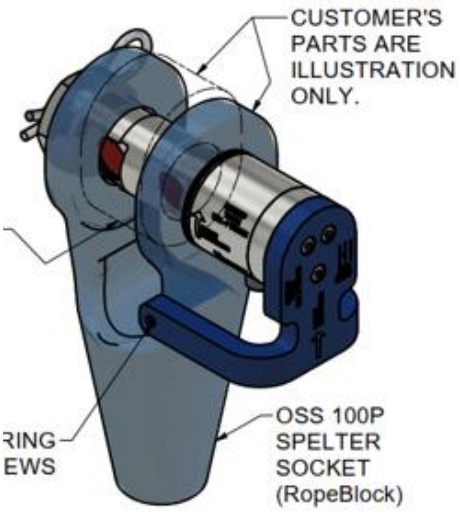
The function of these strain gauge measuring pins depends on the determination of shear forces which are introduced into the measuring element by suitable design and arrangement.

Selection and application

Unlike the majority of measuring devices, a load measuring pin can be fitted or retrofitted without the need for expensive modifications or fittings.



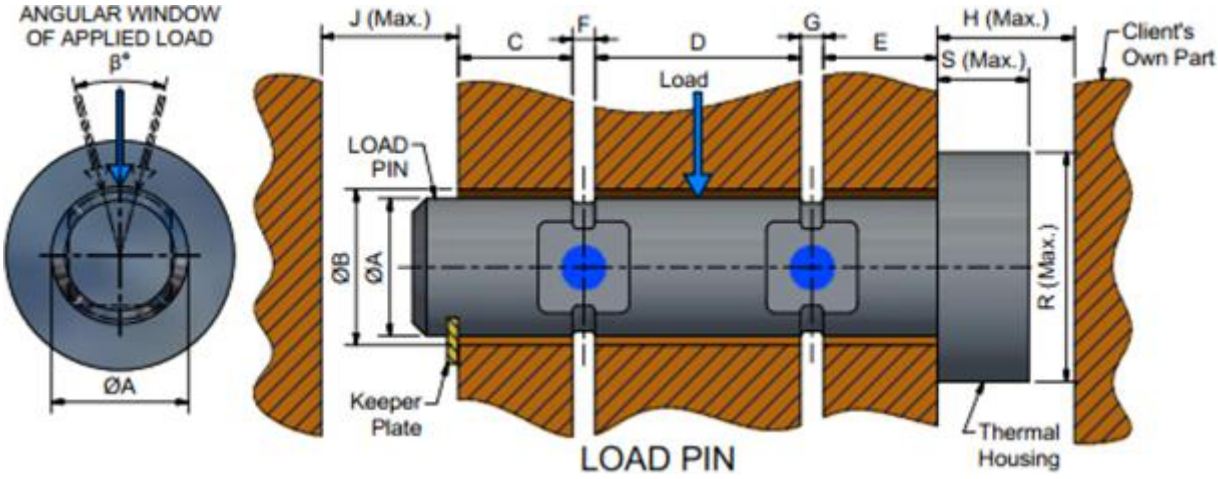




Load Pins

We have a range of pre-designed load pins that can be modified to suit that available for purchase off-the-shelf.

Alternatively, you can fill-out the custom load pin application datasheet to receive a quotation for a new load pin design to suit your exact application requirements.



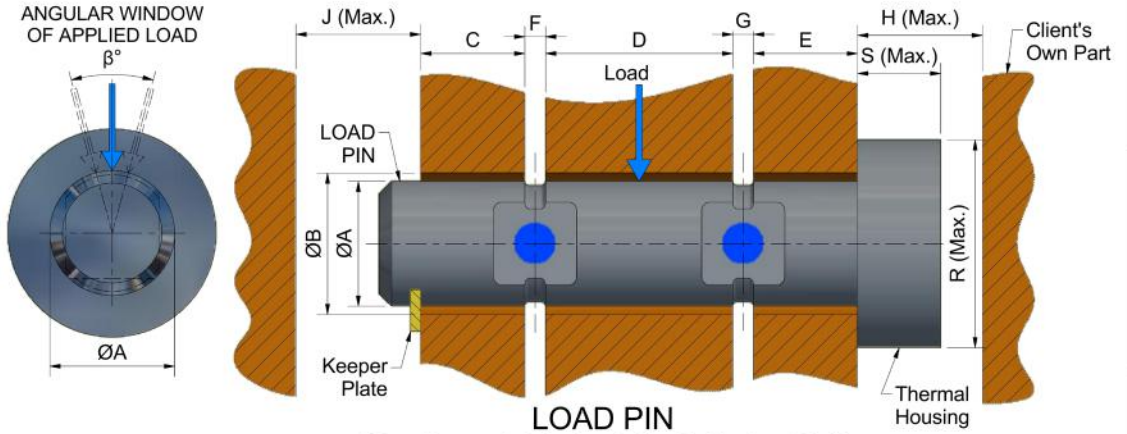
WLL	Item #	A	B	C	D	E	F	G	H	ØI	J	Weight
4t	TBA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
10t	TBA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
20t	TBA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
30t	TBA	44.5	155	3	90	65	15°	12 Holes Ø10.5 PCD 130.2	1-1/4"-12UN	17	10	4.7
100t	TBA	44.5	155	3	90	65	15°	12 Holes Ø10.5 PCD 130.2	1-1/4"-12UN	17	10	4.7

Custom Load Pins

Application Datasheet

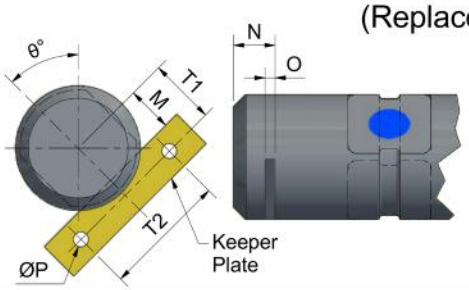
NOBLES INPUT	
Quote Reference:	
Application Reference:	

CLIENT DETAILS (For Client Input)	
Client Company:	
Client Contact Person:	
Client email:	
Client Phone No:	
Client's Reference No:	(If relevant)
Date Completed:	__ __ / __ __ / 20__ __



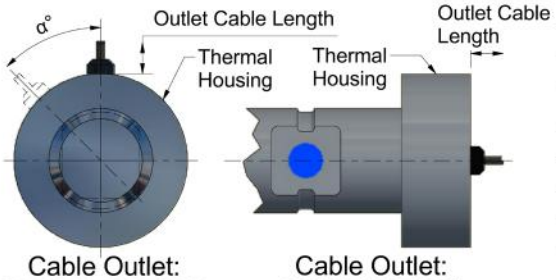
LOAD PIN
(Replaces Existing Tilt Cylinder Pin)

LOAD PIN DIMENSIONS	
Dim.	Client Input
ØA	mm
ØB	mm
β°	deg
C	mm
D	mm
E	mm
F	mm
G	mm
H	mm
J	mm
K	mm
L	mm
R	mm
S	mm



PIN RETENTION OPTIONS (If using Keeper Plate)	
Dimension	Client Input
θ°	deg
M (Ctr. to Slot Depth)	mm
N	mm
O (Slot Width)	mm
ØP (Holes)	mm
T1	mm
T2	mm

ALTERNATIVE PIN RETENTION	
If not using a keeper plate, please specify alternative retention method:	
Please attach Drawing or Sketch - Reference No:	



Cable Outlet:
RADIAL OPTION

Cable Outlet:
AXIAL OPTION

CABLE OUTLET OPTIONS	Client Input
Cable Gland or Connector at Output?	
Is Grease Groove / Nipple Required?	
Radial or Axial?	
Outlet Angle (If Radial Only), α°	deg
Outlet Cable Length	m

LOAD PIN CAPACITY OPTIONS	Client Input
Max. Capacity (WLL)	
Calibration Units (kN, N, tf, kgf, lbf ?)	
Output Type (mV, V or mA ?)	

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LOAD PIN APPLICATION DATA SHEET (For Client Input)

TR165 | REV. 1 | SHEET /

D:\Vault-Wrk\Dir\Drawings\TR\TR165\TR165-LoadPin-01.idw

Load Pins – Working with you

We always work to ensure that our customers get the best, safest and most reliable lifting equipment and our load pins are no exception.

Armed with information about your installation we can provide the simplest fit-up into existing machinery and electronics, design advice for new equipment, or professionally engineered modification designs to get the best results from a load pin application.

Nobles operates a certified ISO 9001 quality system for design and performs every manufacture via rigorous design control and contract review processes.

Customers are able to ensure that no mis-steps are taken since each bespoke design is held for customer sign-off of critical parameters, ensuring that every gets load pin precisely meets specification.

Pictured below are some various styles of connector and cover mountings for Load Cell pin heads.

Counterbored recess for M12 connector fitting

Blanking plug, with 4-20mA electronics behind

Connector in underside of Load Cell head

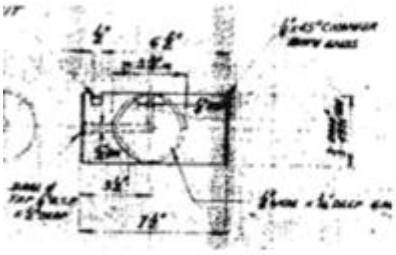
Bespoke end cap (sealed with o'ring inside) with MIL-spec connector

Countersunk bespoke end cap

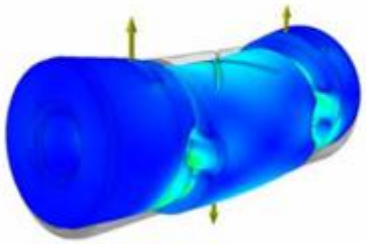
Billet machined external housing with mil-spec connectors

Connector set at 90 degrees to head against milled flat, cover on end to access internal wiring

Customer drawing



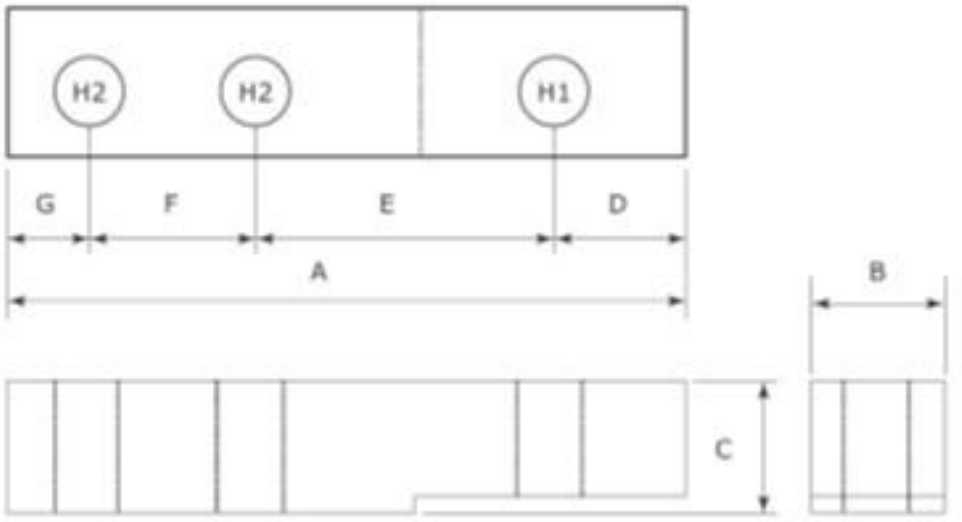
Finite Element Analysis



Final render

Shear Beam Load Cells

Shear beam load cells are used in applications such as platform scales where half of the cell is attached to a stable structure and the other half is attached to a structure that is designed to be load bearing and have some movement.



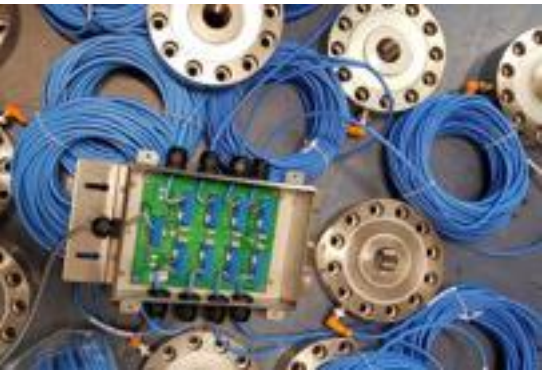
Name	Item #	WLL (tonnes)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H1 (tapped)	H2 (mm)
0.5t Shear Beam Load Cells	TBA	0.5	130	30	30	12.5	76	25.4	16	N/A	13
1t Shear Beam Load Cells	TBA	1	130	30	30	12.5	76	25.4	16	N/A	13
2t Shear Beam Load Cells	TBA	2	130	30	30	12.5	76	25.4	16	N/A	13
3t Shear Beam Load Cells	TBA	3	191	30	45	22	90	60	20	20	20
5t Shear Beam Load Cells	TBA	5	191	43	45	22	90	60	20	20	20
10t Shear Beam Load Cells	TBA	10	245	48	60	23	120	75	25	26	22

Compression Load Cells

Compression load cells can be used for a variety of applications such as weighing loads that are placed above the load cell itself.

Either Universal or S-Type load cells are ideal for use where the load may change from tension to compression force, such as rope and chain testing or for through-hole applications as part of overhead crane systems and more.

Other compression load cell types that we can manufacture, supply and calibrate include pancake, through-hole, canister, button, donut, single or multiple column or compression weigh module load cells.



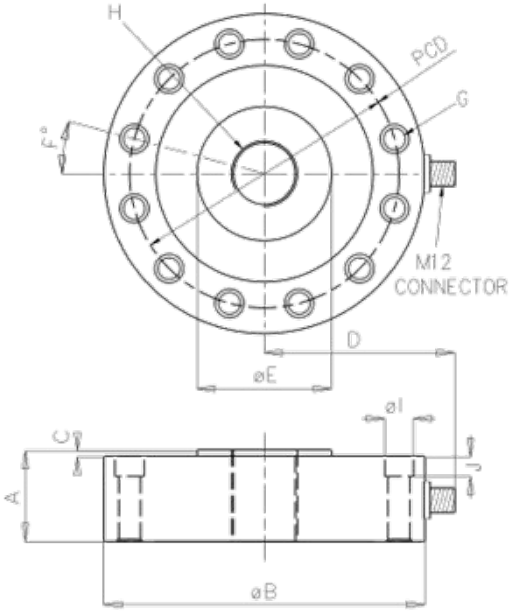
Universal Load Cells

Universal low-profile, high-accuracy load cells have a compact design with capacities from 1 to 100 tonnes.

Made from tool steel with a corrosion-resistant finish, they are fully sealed for environmental protection.

Available mounting kits include compression and tension options, with components like load buttons and mounting plates.

They can connect to various display types or be signal-conditioned for compatibility with industry-standard PLC applications.



Applications for universal load cells include:

- Materials testing in compression or tension
- High-capacity tension weighing and overhead weighing of cranes
- The low profile is ideal for compression weighing of hoppers, tanks and silos
- A range of universal load cells is available in standard sizes and can be custom made on request

WLL	Item #	A	B	C	D	E	F	G	H	ØI	J	Weight
1t	POA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
2.5t	POA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
5t	POA	35	105	3	65	32	22.5°	8 Holes Ø7.2 PCD 88.5	5/8"-18UNF	10.5	8.5	1.6
10t	POA	44.5	155	3	90	65	15°	12 Holes Ø10.5 PCD 130.2	1-1/4"-12UN	17	10	4.7
25t	POA	44.5	155	3	90	65	15°	12 Holes Ø10.5 PCD 130.2	1-1/4"-12UN	17	10	4.7
50t	POA	63.5	205	6.5	115	95	11.25°	16 Holes Ø13.5 PCD 165.1	1-3/4"-12UN	20	13	11.7
100t	POA	90	280	13	152	125	11.25°	16 Holes Ø17.5 PCD 228.6	2-3/4"-8UN	25	16	29.5

ECAM Systems

Underground Mining Safety Solutions

ECAM is an Electronic Consulting and Manufacturing (ECAM) company operating as consultants and experts to a wide range of custom and standard electronic solutions since 1964.

Nobles is a long-time distributor of ECAM systems and components and have been supplying systems to nearly all metalliferous shaft mines in Australia for over 30 years.

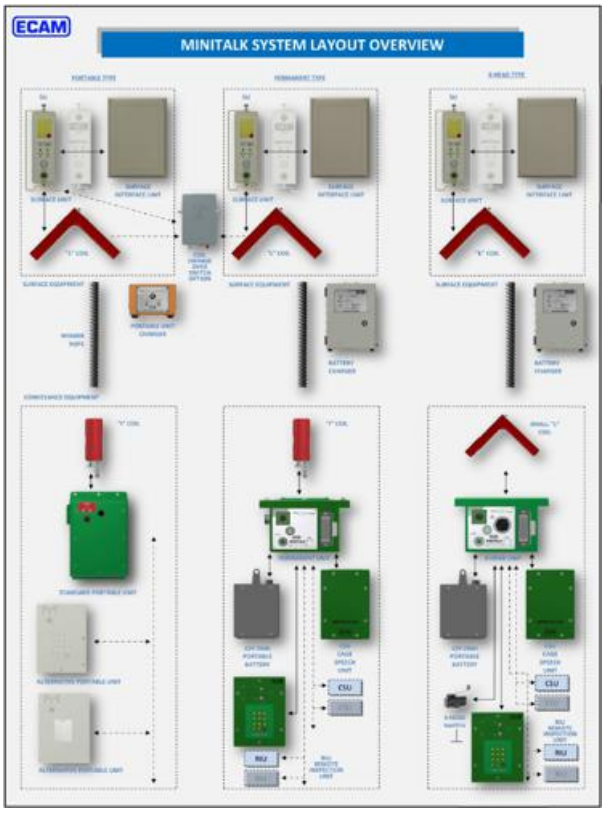
ECAM technology provides real-time monitoring for hoists, conveyors, and load-bearing equipment, enhancing safety, compliance, and predictive maintenance in underground mining.

ECAM Systems

Minitalk

Minitalk systems were developed as a direct replacement for SSP79 and Supertalk shaft phone systems.

These systems are used to do bell communication, voice communication, interface with the winder controls and display information between the hoist driver and the conveyance personnel.

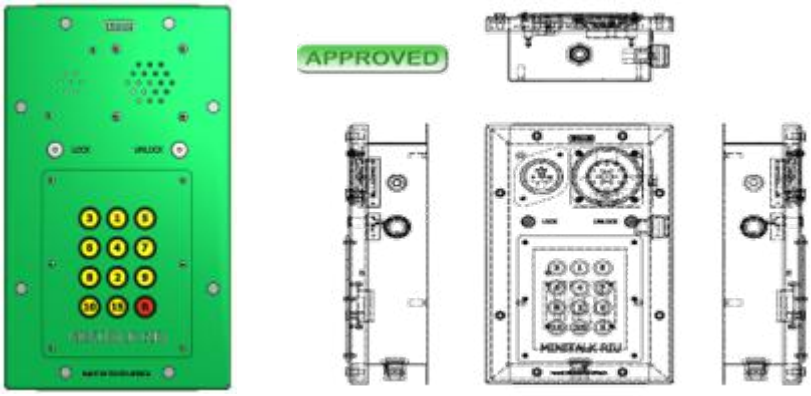


Main functions:

- Speech
- Bells
- Auxiliary input (crosshead separation)
- Half-duplex communications and data system
- Uses an induced signal through the winders wire rope as a method of communicating from cage to surface

Configurations:

1. **Portable type**
   Standard portable system
2. **Permanent type**
   Permanent mounted system
3. **X-HEAD type**
   Crosshead separation monitoring system (shaft sinking)



ECAM Systems

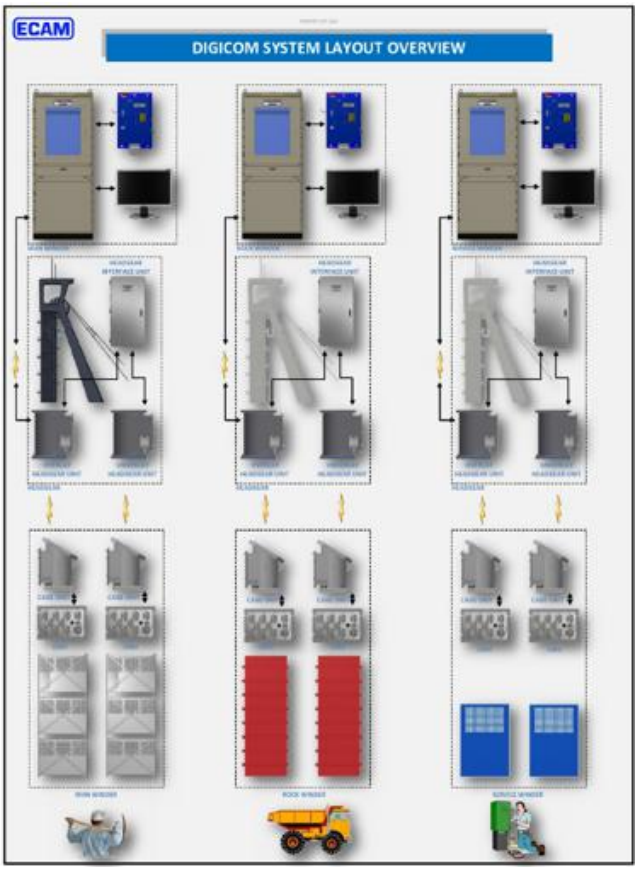
Digicom

ECAM's all new Digicom system provides mine shafts the ultimate solution for digital data, voice and video communication.

Using the latest radio technology, ECAM provides a wireless communication link from the driver to the working conveyance in the shaft.

This system also provides multiple digital and analogue inputs and outputs. These can be linked to a custom safety circuit which can easily be accessed by a touch panel user interface.

Live video feeds can also be streamed from the conveyance to surface via the Digicom link and provide the driver/control room a visual representation of the conveyance.



What is Digicom?

The Digicom system takes vertical shaft safety to the future.

- Bandwidth is high
- Cameras on system to give shaft drivers not only digital feedback but visual as well
- Currently developing an auto shaft examination system
- Allows one trip at high speed through the shaft to record video
- Examinations can take place at a later date to not interrupt the normal mine shaft operations

Safety, Compliance & Quality Assurance Matters

Why Choose Nobles?

- ✔ Proven experts for over 50+ years across most load measurement related industries.
- ✔ Supports local manufacturing.
- ✔ Accredited for all National or International lifting compliance matters.
- ✔ In-house engineering design and fabrication.
- ✔ Load measurement solutions made for durability and performance across a broad range of industries.

The lifting industry plays a critical role in multiple sectors such as construction, shipping, mining, oil & gas, manufacturing, logistics, and more. Ensuring safe and efficient lifting operations prevents accidents, reduces downtime, and improves overall productivity.

Compliant load cells are instrumental for achieving these goals.

Discover the advantages and adaptability of utilising Nobles' extensive range of products and services across nearly limitless applications for all your engineered lifting and force measurement needs.

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